

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 174 AND I-97 SOUTHBOUND RAMPS IN ANNE ARUNDEL COUNTY. THE WORK IS NECESSITATED BY THE CONSTRUCTION OF A FOURTH LEG TO THE INTERSECTION. MD 174 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR MD 174 AND SIDE STREET SPLIT PHASING. THIS PHASING WILL NOT CHANGE.

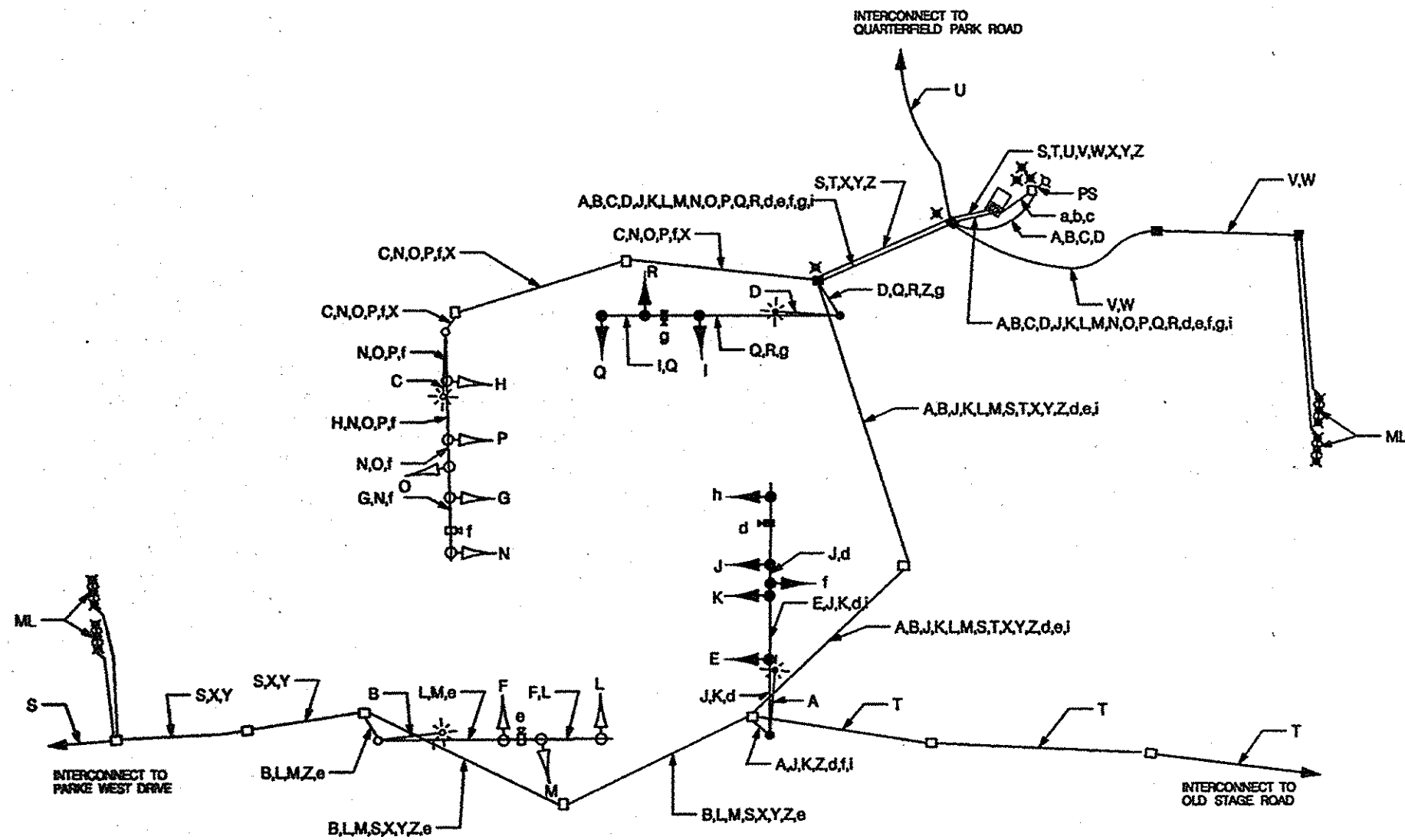
CONTROLLER REQUIREMENTS

A NEW EIGHT-PHASE, FULLY-ACTUATED CONTROLLER WITH SYSTEM PACKAGE AND ONE (1) FOUR CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND VIDEO DETECTION INTERFACE EQUIPMENT HOUSED IN A NEMA "6" BASE MOUNTED CABINET WILL BE INSTALLED.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE MSHA AT 410-787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR MUST PROVIDE MR. SNYDER WITH THE NEAREST ADDRESS, ZIP CODE, AND PHONE NUMBER.

WIRING DIAGRAM



WIRING KEY

- A-D 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- E-I 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- J-R 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- S-U 12-PAIR VOICE GRADE INTERCONNECT CABLE CABLE
- V-Y MICRO-LOOP PROBE LEAD-IN
- Z STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- a-c 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
- d-g VIDEO DETECTION CABLE
- h 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- i 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- PS PROPOSED ELECTRIC SERVICE
- ML MICRO-LOOP PROBE
- X GROUND ROD

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

| QUANTITY | DESCRIPTION |
|----------|---------------------------------------------------------------------------------------|
| LS | MAINTENANCE OF TRAFFIC |
| 2 CY | TEST PIT EXCAVATION |
| 50 LF | FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING |
| 2 EA | FURNISH AND INSTALL 27" POLE WITH SINGLE 70" MAST ARM. |
| 12 CY | FURNISH AND INSTALL CONCRETE FOUNDATION. |
| 5 EA | FURNISH AND INSTALL GROUND ROD, 3/4" DIAMETER X 10' LENGTH. |
| 150 LF | FURNISH AND INSTALL SAWCUT. |
| 50 LF | FURNISH AND INSTALL 1" GALVANIZED STEEL ELECTRICAL CONDUIT-DETECTOR WIRE SLEEVE |
| 350 LF | FURNISH AND INSTALL 4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED) |
| 260 LF | FURNISH AND INSTALL 4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (BORED) |
| 1 EA | FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT |
| 4 EA | FURNISH AND INSTALL HANDHOLE |
| 470 LF | FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.). |
| 130 LF | FURNISH AND INSTALL 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| 2550 LF | FURNISH AND INSTALL 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) |
| 1020 LF | FURNISH AND INSTALL 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE. |
| 100 LF | FURNISH AND INSTALL 1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.) |
| 2 EA | FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE |
| 2 EA | FURNISH AND INSTALL 15' STREET LIGHTING ARM |
| 26 EA | FURNISH AND INSTALL 12" VEHICULAR TRAFFIC SIGNAL HEAD SECTION |
| 2 EA | FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN |
| 2 EA | FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN |
| 2700 LF | FURNISH AND INSTALL 12-PAIR VOICE GRADE INTERCONNECT CABLE (JELLY FILLED) |
| 2 EA | FURNISH AND INSTALL VIDEO DETECTION CAMERA |
| 1 EA | FURNISH AND INSTALL BASE MOUNTED CABINET AND CONTROLLER |
| 1 EA | FURNISH AND INSTALL D3-2 DUAL FACED SIGN (VAR. X 16") - MAST ARM MOUNTED |
| 3 EA | FURNISH AND INSTALL R3-5L SIGN, (30" X36") MAST ARM MOUNTED |
| 1 EA | FURNISH AND INSTALL R3-6L SIGN, (30" X36") MAST ARM MOUNTED |
| 1 EA | FURNISH AND INSTALL 250 FT. VIDEO DETECTION CABLE |
| 3 EA | FURNISH AND INSTALL 500 FT. VIDEO DETECTION CABLE |
| LS | REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT |
| 1 EA | FURNISH AND INSTALL 4 CHANNEL TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER |
| 1 EA | FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT |
| 1 EA | FURNISH AND INSTALL METERED SERVICE PEDESTAL |
| 15 LF | FURNISH AND INSTALL 1 IN. LIQUID-TIGHT NON-METALLIC CONDUIT |
| 1 EA | RELOCATE EXISTING SIGNAL HEAD |
| 1 EA | RELOCATE EXISTING GROUND MOUNTED SIGN |
| 30 LF | FURNISH AND INSTALL 2" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED) |

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

| ITEM NO. | QUANTITY | DESCRIPTION |
|----------|----------|-------------|
| NONE | | |

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MRS. KIM TRAN
ASSISTANT DISTRICT ENGINEER - TRAFFIC
(410) 841-1003

MR. CHARLES GEORGE
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
(410) 841-1002

MR. JOHN MAYS
ASSISTANT DISTRICT ENGINEER - UTILITIES
(410) 841-1005

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787-7630

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787-7676

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7631

MS. DARLENE EIDE
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787-7668

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
(410) 787-7652

PHASING CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|------|------|-----|
| | (3) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) |
| PHASE 1 & 5 | *G- | *G- | *G- | R | R | *G- | *G- | R | R | R | R | R | R | R | R |
| 1 & 5 CHANGE | | | | | | | | | | | | | | | |
| PHASE 1 & 6 | *G- | *G- | *G- | G | G | *R- | *R- | R | R | R | R | R | R | R | R |
| 1 & 6 CHANGE | *Y- | *Y- | *Y- | G | G | *R- | *R- | R | R | R | R | R | R | R | R |
| PHASE 2 & 5 | *R- | *R- | *R- | R | R | *G- | *G- | G | G | R | R | R | R | R | R |
| 2 & 5 CHANGE | *R- | *R- | *R- | R | R | *Y- | *Y- | G | G | R | R | R | R | R | R |
| PHASE 2 & 6 | *R- | *R- | *R- | G | G | *R- | *R- | G | G | R | R | R | R | R | R |
| 2 & 6 CHANGE | *R- | *R- | *R- | Y | Y | *R- | *R- | Y | Y | R | R | R | R | R | R |
| PHASE 3 | *R- | *R- | *R- | R | R | *R- | *R- | R | R | R | R | R | *G-G | *G-G | G |
| 3 CHANGE | *R- | *R- | *R- | R | R | *R- | *R- | R | R | R | R | R | Y | Y | Y |
| PHASE 4 | *R- | *R- | *R- | R | R | *R- | *R- | R | *G-G | *G-G | G | R | R | R | R |
| 4 CHANGE | *R- | *R- | *R- | R | R | *R- | *R- | R | Y | Y | Y | Y | R | R | R |
| FLASHING OPERATION | FLR | FLR | FLR | FLY | FLY | FLR | FLR | FLY | FLY | FLR | FLR | FLR | FLR | FLR | FLR |

[1] TEDD APPROVAL Red-Line 13/22/2007

TRAFFIC **C**ONCEPTS INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101
FAX (410) 923-6473
EMAIL TRAFFIC.CONCEPTS@COMCAST.NET

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION PLAN
MD 174 (QUARTERFIELD ROAD) AND
I-97 S.B. RAMPS

| | | | | | |
|-------------|-----------|--------------|--------------|--------------|-----------|
| SCALE | NONE | DATE | 5-18-06 | CONTRACT NO. | BW 996M82 |
| DESIGNED BY | T. ZAYDEL | COUNTY | ANNE ARUNDEL | | |
| DRAWN BY | T. ZAYDEL | LOGMILE | 02017404.80 | | |
| CHECKED BY | K. SCHMID | T.I.M.S. NO. | | | |
| F.A.P. NO. | N/A | TOD NO. | | | |
| DRAWING NO. | 417B1G1 | SHEET NO. | | OF | |